DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 2, 4-9, 11-14, 27, 29, 30, 35, 36, 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schuman et al. (US6950532, hereinafter Schuman) in view of Jones et al. (US20020094082, Jones).

As to claims 1:

Schuman shows a detection method for video embedded with data in video, the video comprising a plurality of video frames (figure 8), the video having been embedded by:

embedding (e.g., writing effects and security info onto content media) the identification data (e.g., "[d]isruption content may have a multitude of new content") in a first video frame prior to distribution or projection of the video (column 7, lines 42-53) (e.g., "this information […] may be carried in the digital film itself" and "the disruption may be pre-authored"), the embedded identification data being visually perceptible upon examination of the first frame (figure 8, column 6, lines 24-34);

selecting a second video frame (e.g., "generated images" means that more than one image is generated, and images can be "image frames"), wherein the first and second video frames are separate frames (column 6, lines 24-34);

and embedding the identification data in the second video frame prior to distribution or projection of the content (column 7, lines 42-52), the embedded identification data being visually perceptible upon

examination of the second frame, wherein the identification data is generally imperceptible upon real-time rendering of the video (e.g., "human eye many not detect them") (figure 8, column 6, lines 24-34),

and in which a spatial location of a first embedding location in the second video frame is changed relative to a second embedding location in the first video frame, such that first embedding location and the second embedding location are overlapping yet different spatial locations (col. 7, l. 30-34; col. 7, l. 66 to co. 8, l. 10) (e.g., obscuring a star's face by generating a localized disruption, such that as the star's face moves about the frame of the image, the location of the localized disruption is shifted to continue to obscure the star's face).

Schuman further shows: disruption content is inserted so that it "becomes visible when played [...] due to temporal expansion" when reconstructed, thus "improving the signal to noise ratio of the identification data" (column 6, lines 33-43).

Schuman fails to specifically show: said method comprising: obtaining video embedded with the identification data; averaging a plurality of the video frames including the first and second frames, wherein the averaging improves the signal to noise ratio of the identification data to video content; and detecting the identification data from a result of said act of averaging.

In the same field of invention, Jones teaches: embedding message data in a digital image sequence. Jones further teaches: said method comprising: obtaining video embedded with the identification data; averaging a plurality of the video frames including the first and second frames, wherein the averaging improves the signal to noise ratio of the identification data to video content; and detecting the identification data from a result of said act of averaging (paragraphs [0010], [0029]-[0034]).

Thus, it would have been obvious to one of ordinary skill in the art, having the teachings of Schuman and Jones at the time that the invention was made, to have combined the teachings of Jones with the method, and a corresponding non-transitory computer readable medium, as taught by Schuman.

One would have been motivated to make such combination because a way to minimizing the visibility of the watermark when the watermarked sequence is displayed in real-time would have been obtained and desired, as expressly taught by Jones (paragraph [0009]).

As to claim 2, Schuman shows:

The method of claim 1, wherein the selecting comprising selecting the second frame so that the repetition of the embedded identification data is imperceptible to the human conscious mind when rendered (e.g., "human eye many not detect them") (column 6, lines 24-34).

As to claim 4, Schuman shows:

The method of claim 1, further comprising visually inspecting the first or second frames (e.g., "generated images may be captured [...] creating anomalous images") (figure 8, column 6, lines 32-43).

As to claim 5, Schuman shows:

The method of claim 1, in which said act of detecting utilizes device-aided character recognition of the first or second frames to detect the identification data frames (e.g., humanly perceiving the message) (column 6, lines 58-67).

As to claim 6, Schuman shows:

The method of claim 1 wherein the identification data is embedded in each of the first and second frames in the form of a digital watermark, yet the embedded digital watermarks remain visually perceptible upon examination of the first frame and second frame (column 6, lines 57-63).

As to claim 7, Schuman shows:

The method of claim 6, wherein the digital watermark visibility is due at least in part to digital watermark signal strength or intensity (column 6, lines 28-36 and lines 57-63).

As to claim 8, Schuman shows:

The method of claim 2, wherein the second frame is selected so that the repetition of the embedded identification data is a human observer of the video (e.g., "human eye many not detect them") (column 6, lines 24-34).

As to claim 9, Schuman shows:

The method of claim 1, wherein the identification data comprise at least one of text, numbers, codes, images or graphics (column 6, lines 58-63).

As to claim 11, Schuman shows:

The method of claim 1, wherein the identification data comprise a plurality of identifiers (column 6, lines 58-63).

As to claim 12, Schuman shows:

The method of claim 11, wherein each of the plurality of identifiers (e.g., text or logos) is embedded to be spatially located in a separate frame location (e.g., "mark the content with messages") with respect to each other (column 6, lines 58-67).

As to claim 13, Schuman shows:

The method of claim 12, wherein the separate frame locations are the same for each of the first frame and second frames (e.g., if a human is to perceive a message, the message has to be in substantially the same location from one frame to the next) (column 6, lines 58-67).

As to claim 14, Schuman shows:

The method of claim 11, wherein the plurality of identifiers comprise at least two identifications (e.g., advertisement) selected from a group comprising: a content identification (e.g., text […] identifying content), a distributor identification (e.g., logo), copy restriction information (e.g., "copy protected"), and an exhibition identification (e.g., "time of the event") (column 6, line 58 to column 7, line 4).

As to claim 27:

Schuman shows an apparatus comprising: memory for buffering media content, wherein the media content comprises a plurality of segments including masking content (e.g., generated images with watermarks inserted on them) (column 3, lines 20-22; (column 3, lines 42-49), in which

at least two of the media segments are provided with the data (e.g., generated images) (column 3, lines 20-22) prior to distribution or projection of the video (column 7, lines 42-52),

wherein the data comprises humanly perceptible data (e.g., "inserting a human perceivable image") (column 3, lines 42-49), and

wherein the data remains perceptible upon individual examination of the at least two media segments but consciously imperceptible as the media content is rendered in real time since the data is below a perceptual threshold due to the masking content (column 6, lines 32-40).

Schuman further shows: disruption content is inserted so that it "becomes visible when played [...] due to temporal expansion" when reconstructed, thus "improving the signal to noise ratio of the identification data" (column 6, lines 33-43).

Schuman fails to specifically show: wherein the media content comprises video, and the plurality of segments comprises video frames, and the masking content comprises video frames without the data, and in which a spatial location of a first data placement location in a second segment is changed relative to a second data placement location in a first segment, such that the first data placement location and the second data placement location are overlapping yet different spatial locations (col. 7, l. 30-34; col. 7, l. 66 to co. 8, l. 10) (e.g., obscuring a star's face by generating a localized disruption, such that as the star's face moves about the frame of the image, the location of the localized disruption is shifted to continue to obscure the star's face);

; and an electronic processor programmed as a detector for averaging a plurality of the video frames so that the provided data becomes consciously perceptible.

In the same field of invention, Jones teaches: embedding message data in a digital image sequence. Jones further teaches: wherein the media content comprises video, and the plurality of segments comprises video frames, and the masking content comprises video frames without the data;

and an electronic processor programmed as a detector for averaging a plurality of the video frames so that the provided data becomes consciously perceptible (paragraphs [0010], [0029]-[0034]).

Thus, it would have been obvious to one of ordinary skill in the art, having the teachings of Schuman and Jones at the time that the invention was made, to have combined the teachings of Jones with the apparatus as taught by Schuman.

One would have been motivated to make such combination because a way to minimizing the visibility of the watermark when the watermarked sequence is displayed in real-time would have been obtained and desired, as expressly taught by Jones (paragraph [0009]).

As to claim 29, Schuman shows:

The method of claim 28, wherein the data comprises an image of at least one of a hexadecimal number, binary number or decimal number (e.g., date) (column 6, lines 58-67)..

As to claim 30, Schuman shows:

The method of claim 28, wherein the data comprises an image of text (column 6, lines 58-67).

As to claims 35, Schuman shows:

The method of claim 27 wherein the auxiliary data comprises an identifier comprising l's and 0' s, where the l's are embedded in the content through modification to content data (column 7, lines 42-52) (inherent, since a digital film is comprised of zeros and ones).

As to claim 36, Schuman shows:

The method of claim 35 wherein the O's are represented in the content through the absence of modification to content data (column 7, lines 42-52) (inherent, since a digital film is comprised of zeros and ones).

As to claim 44, Schuman shows:

The method of claim 1 in which the identification data comprises exhibition data carried with a pseudo-random sequence (col. 6, l. 28-33) (e.g., displaying images with anomalies, black frames, randomly).

It is noted that any citation to specific, pages, columns, lines, or figures in the prior art references and any interpretation of the references should not be considered to be limiting in any way. A reference is relevant for all it contains and may be relied upon for all that it would have reasonably suggested to one having ordinary skill in the art. In re Heck, 699 F.2d 1331, 1332-33,216 USPQ 1038, 1039 (Fed. Cir. 1983) (quoting In re Lemelson, 397 F.2d 1006,1009, 158 USPQ 275, 277 (CCPA 1968)).

Response to Arguments

Applicant's arguments filed 05/08/2012 have been fully considered but they are not persuasive because the Schuman and Jones references do render obvious claims 1 and 11, as explained above.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Van Wie et al.	[U.S. 6,449,367]
Shimizu	[U.S. 6,370,272]
Rhoads	[U.S. 5,636,292]
Ashizaki et al.	[U.S. 6,829,430]
Vynne et al.	[U.S. 5,960,081]
Rhoads	[U.S. 5,841,978]

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JORDANY NUNEZ whose telephone number is (571)272-2753. The examiner can normally be reached on Monday Through Thursday 9am-7:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matt Kim can be reached on (571)272-4182. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Jordany Núñez/
Examiner, Art Unit 2171
7/11/2012